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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

D-1489

Applicant : Norimasa Nagasawa et al.

Title : HOLE PLUG

Serial No. : 10/662,344

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Group Art Unit : 3677

Examiner : Flemming Saether

Hon. Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

June 27, 2005

APPEAL BRIEF

Sir:

Further to the Notice of Appeal, an Appeal Brief has been filed herewith. A credit card authorization form in the amount of $500.00 is attached herewith for the appeal brief fee.

REAL PARTY IN INTEREST

The applicant is the real party in interest.

RELATED APPEALS AND INTEREFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 5, 8 and 9 have been cancelled. Claims 1-4, 6, 7 and 10-13 were (i) finally rejected in their respective forms preceding the Amendment After Final Action of April 12, 2005, and (ii)

permitted to be entered in amended form pursuant to an Advisory Action of April 26, 2005.

Accordingly, claims 1-4, 6, 7 and 10-13, as reproduced in the Claims Appendix hereof in their entirety, are all of the claims currently pending and at issue.

STATUS OF AMENDMENT

Claims 1-4 and 6-13 were *finally rejected* in the final Action of February 2, 2005. In response, Applicant filed an Amendment After Final Action on April 12, 2005. In the foregoing Amendment After Final Action, Applicant amended claims 4 and 10 and canceled claims 8 and 9.

The Examiner permitted entry of the foregoing claim amendments for appeal purposes in an Advisory Action dated April 26, 2005. Accordingly, claims 1-4, 6, 7 and 10-13, as reproduced in the Claim Appendix, are currently pending and at issue.

Applicant respectfully requests that the following arguments be reviewed in light of the foregoing claim amendments and cancellations, noting that with respect to newly amended claims 4, 10, Applicant presently argues the merits based upon the Examiner's prior positions in relation to the cited references.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to a hole plug for sealing a hole formed on a plate member. The plate member may be, for example, a steel plate used for a variety of different products. One example is the steel plate of an automobile.

Referring to Applicant's Figs. 5 and 6, Applicant's claimed invention is directed to a hole plug for plugging a hole, for example, a hole plug 1 plugging a hole 11 in the inner body 10 of an exemplary car door 9.

The inventive hole plug includes a head portion and a foot portion that projects from the back surface of the head portion. Referring to Fig. 4, the hole plug 1 includes the head portion 2

having a rim 2a formed in a slope inclined toward a back surface 2b of the head portion 2, providing elasticity upon bending.

Prior art hole plugs have had a number of disadvantages. For one, where the rim of the hole engages with an engaging claw to keep the hole plug in place, the rim of the head portion as well as the rim of the engaging claw are designed to be easily bent. While this structure has been thought necessary to permit easy insertion of the hole plug into the plate member to seal the rim of the hole, the easy bending (snapping force) of the rim and engaging claw provide a weak seal between the hole plug and the hole. (specification, page 2, lines 1-11)

In addition, the prior art foot portions can be split into plate-like foot separations for easy insertion of the hole plug into the hole. However, again, the fact that the split foot portions are easily bent creates problems. As one example, some of the split foot portions may be bent backward and caught by the rim of the hole during insertion, causing some of the foot portions to be inserted while others remain behind, creating assembly problems, not to mention weakened seals. (specification, page 2, lines 12-22)

The presently claimed invention solves the foregoing problems. The claimed invention provides ease of use in that the hole plug may be easily inserted into the hole, while concurrently providing the strong ability to seal the hole plug in the plate member hole. (specification, page 2, lines 23-29)

Referring to Fig. 6, engaging step portions 8 and the rim 2a of the head portion 2 sandwich the rim 10a of the hole being plugged by the inventive hole plug. (specification, page 10, lines 27-30) The resulting bending of normally curved rim 2a (see Fig. 4) to a flat state, and the engagement with engagement step portions 8 creates a seal between the hole plug and the rim 10a of the hole. Engaging step portions 8 are formed on the uprising plate portions 5 extending from the back surface of the head portion 2. Because of the foregoing feature, an external force from the plate portions 5 upward does not weaken the seal between hole plug 1 and the rim 10a of the hole. (specification, page 4, lines 2-6)

Applicant's Fig. 3 illustrates a bottom plan view of

Applicants' exemplary hole plug. Hole plug 1 may include column 3, several guide portions 4, the aforementioned plate members 5, and several supporting portions 6. (specification, page 7, line 26 - page 8, line 1) Column 3 may be formed in a hollow cylinder shape to reduce the weight and raw material of the hole plug. (specification, page 8, lines 11-12)

Supporting portions 6 are disposed between each of the uprising plate portions 5 and the column 3. In an embodiment, each of the supporting portions 6 has one of its uprising end faces integrated with the back surface 2b of the head portion 2. Also, in an embodiment, each of the supporting portions 6 connects a central part of an inner surface of the uprising plate portion 5 in the width direction to an outer circumferential surface of the column 3. Accordingly, each of the supporting portions 6 limits each of the uprising plate portions 5 so not as to bend inwardly (reduce the radius) while providing elasticity to a certain extent. Also, each of the supporting portions 6 has a height from the back surface 2b of the head portion shorter than that of the uprising plate portion 5.

In the above-noted configuration, the supporting portion 6 limits the base end 5a of the uprising plate portion 5 from having its radius reduced inwardly. In addition, end portion 5b of the uprising plate portion 5 may be easily bent in the radial direction, so that each of the uprising plate portions 5 is easily inserted into the hole 11 to be blocked.

Independent claims 1, 2 and 10 set forth the foregoing features. The claims are directed to a head portion, a foot portion including the plate members, having engaging step portions, a column, and supporting means disposed between the column and the plate members.

Claim 4 additionally includes that the supporting means are integrated with the back surface of the head portion. (specification, page 10, lines 8-10) Claim 10 additionally includes guide means disposed between plate members having lengths longer than the plate members, with the column being integrally connected to the guide means. (specification, page 10, lines 16-19)

Claim 2 sets forth the additional recitation that the plate members are arranged circularly so that the foot portion has a cylindrical shape. (specification, page 9, lines 10-13)

Claim 3 sets forth the additional recitation that each of the supporting means is formed at a position closer to the base than the top portion of the hole plug. (specification, page 9, lines 1-19)

Claims 6 and 11 set forth the additional recitation that the supporting means are formed in a wavy plate shape in a radial direction and extending from the back surface of the head portion. (specification, page 9, lines 4-8)

Claim 7 sets forth the additional recitation that the guide means are disposed between two of the plate members and extending from the back surface of the head portion, and each of the guide means has length longer than each of the plate members. (specification, p.11, ll.6-11)

Claim 12 sets forth the additional recitation that the head portion has a plate shape and an outer periphery inclined toward the foot portion. (specification, p.8, ll.4-9)

Claim 13 sets forth the additional recitation that the wavy plate has a height less than the heights of the column and plate member. (specification, p.10, ll.19-22)

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(1) Claims 1-4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,504,009 to Boik *et al.* (hereinafter "Boik").

(2) Claims 8 and 9, now cancelled, were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,319,436 to Jaeger *et al.* (hereinafter "Jaeger"). Because formerly dependent claim 10 has been amended to from dependent to independent form to include the claim recitations of cancelled claims 8 and 9, the patentability of claim 10 is discussed in reference to Jaeger.

(3) Claims 1, 2 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,761,319 to Kraus *et al.*

(hereinafter "Kraus").

(4) Claims 6 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Boik as applied to claim 1, and further in view of U.S. Patent No. 3,181,411 Mejlso (hereinafter "Mejlso").

(5) Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Boik as applied to claim 1, and further in view of Jaeger.

(6) Claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Boik in view of Mejlso and Jaeger. As noted, claim 10 has been amended from dependent to independent form to include the claim recitations of cancelled claims 8 and 9.

ARGUMENT

Claims 1-4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Boik. The rejection is respectfully traversed.

Referring to Boik's Fig. 1, Boik discloses a closure unit 22 which may be inserted into the open end of a tubular container body 21. (column 2, lines 23.)

The Examiner relies upon Boik's Fig. 14 embodiment to anticipate claims 1-4. Referring to Boik's Fig. 14, this embodiment describes a closure unit 74. The closure unit 74 includes an end panel 55, annular wall 64 extending from a back surface of the end panel 55, and retaining lugs 56 extending from the back surface of the end panel 55 and circumferentially spaced apart from each other.

The annular wall 64 is provided with back-up lugs 75 adjacent the end panel 55. When the retaining lugs 56 deform inwardly, the lugs 75 contact surfaces 65 of the lugs 56, thereby controlling an extent of the deformation of the retaining lugs 56.

Referring to Applicant's claims 1 and 4, by virtue of Examiner's substantive arguments and the 35 U.S.C. § 102 statutory requirement that Boik discloses every claim limitation, (i) end panel 55 is taken to read on Applicant's claimed "head portion" of a hole plug, (ii) annular wall 64 is taken to read on Applicant's claimed "column," and (iii) retaining lugs 56 are taken to read on

Applicant's claimed "plate members." In turn, retaining lugs 56 include (A) thin strap-like portions 58 directly integral with the end panel 55, and (B) radially inner surfaces 65 projecting away from end panel 55. In addition, back-up lugs 75 are taken to read on Applicant's claimed "supporting means."

Applicant's claims 1 and 4 recite that "the column *is connected to* each of the plate members through each of the supporting means and the supporting means supports and suppresses the plate member from bending inwardly." (emphasis added)

The foregoing claim recitation is supported by the specification. Applicant's Fig. 3 illustrates a bottom plan view of Applicants' exemplary hole plug. As illustrated and described, supporting portions 6 connect column 3 with plate portions 5. (Specification, page 10, lines 10-13)

Nowhere are Boik's back-up lugs 75, which are to be taken for the supporting means, connected to retaining lugs 56, which are to be taken for the plate members. Anticipation under 35 U.S.C. § 102 always requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. Electro Med. Sys. S.A. v. Cooper Life Sciences, 34 F.3d 1048, 1052, 32 USPQ2d 1017, 1019 (Fed. Cir. 1994).

Boik's Fig. 14 embodiment specifically illustrates and discloses back-up lugs 75 as not being connected to retaining lugs 56, and also fails to provide any reason to infer or imply any such connection.

Boik teaches that retaining lugs 56 may be proportioned to engage both back-up lugs 75 and annular wall 64. (column 5, lines 32-34) However, proportioning retaining lugs 75 to be, for example, larger, is not synonymous with providing the claimed supporting means connecting the annular wall 64, taken by the Office Actions as Applicant's claimed column, with retaining lugs 56, taken as Applicant's claimed plate members.

The Examiner states that the claim does not require "direct" connection. The only logical possibility for an *indirect* connection between annular wall 64, taken as the claimed column, and retaining lugs 56, taken as the claimed plate members, would be if such

indirect connection between the foregoing elements included a portion of end panel 55. However, as noted, end panel 55 must refer to the claimed feature of a head portion in the present construction, otherwise Boik would clearly fail to disclose each and every element of Applicant's claims 1 and 4. But if end panel 55 were to refer to the claimed head portion, it could not simultaneously refer to the claimed supporting means.

In fact, Boik arguably teaches away from such a connection between back-up lugs 75 and retaining lugs 56. Back up lugs 75 are described and shown to be axially extended from annular wall 64. Rather than Applicants' claimed supporting means 6 *connecting* the column 3 to the plate members 5, in Boik the engagement between back-up lugs 75 and surface 65 of retaining lugs 56 is a pressure engagement. Boik teaches that the combination of (i) axially extended back-up lugs 75, disposed to engage with the surface 65 of retaining lugs 56, and (ii) the resiliency of the retaining lugs 56, provides a pressuring engagement between anchoring heads 60 and the inside of the container body 21. (column 5, lines 27-32)

When the retaining lugs are forced into a container 21, the retaining lugs are bent inward, such that the inner surface 65 engages with back-up lugs 75. However, the retaining lugs 56 have a tendency to return to their original position away from back-up lugs 75. This pressure engagement would be unworkable, unfeasible or outright impossible if back-up lugs 75 connected annular wall 64 to retaining lugs 56, which would be necessary for the reference to anticipate claims 1 and 4. Therefore, back-up lugs 75 can not meet Applicants' claimed recitation relating to the supporting means. A "reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994).

Applicant's claims 1 and 4 also recite an engaging step portion for engaging the hole, specifically that "each of [the] plate members having an engaging step portion at a base close to the head portion for engaging the hole."

Referring to Applicant's Fig. 6, engaging step portions 8 and

the rim 2a of the head portion 2 sandwich the rim 10a of the hole being plugged by the inventive hole plug. The resulting bending of normally curved rim 2a (see Fig. 4) to a flat state, and the engagement with engagement step portions 8 creates a seal between the hole plug and the rim 10a of the hole. (Specification, page 11, lines 14-30)

Boik provides no counterpart to Applicants' claimed engagement step portion because Boik is not analogous art to Applicant's claimed invention. As shown in Applicant's Figs. 5, 6, Applicant's claimed invention is directed to a hole plug for plugging a hole, for example, a hole plug 1 plugging a hole 11 in the inner body 10 of an exemplary car door 9. (Specification, page 10, lines 27-30) On the other hand, referring to Boik's Fig. 1, Boik is directed to a closure unit 22 that may be inserted into the open end of a tubular container body 21 to seal a *container*.

Accordingly, while in Applicant's claimed invention the rim 10a of hole 11 engages with engaging step portions 8 in a direction parallel to the plane of head portion 2, in Boik the only engagement that could remotely be considered comparable would be the engagement of plate member 56 with container body 21 (see Boik's Figs. 7-12, 13), in a direction perpendicular to end panel 55. For the foregoing reasons, the "hole" as recited in the claims cannot be analogous to the container body 21, and consequently, the engaging step portion does not engage with a hole, as presently claimed.

Even if the opening of container body 21 were taken as the claimed hole, any reasonable interpretation would take the rim of container body 21 as Applicant's claimed hole. As claimed by Applicant's claims 1 and 4, the engaging step portion engages the hole, and as illustrated in Applicant's Fig. 6, engaging step portion 8 engages with rim 10a, whose circumference creates a hole. However, referring to Boik's Fig. 14, under no circumstances could the portion of retaining lugs 56 that would engage with container body 21 be taken to engage with the rim of container body 21, i.e., creating a "hole" for the purposes of the present rejection. Accordingly, Boik does not disclose an engaging step portion for

engaging the hole.

In addition, even if Boik's container body 21 were taken as a hole, as presently claimed, Applicant's claimed recitation of "the engaging step portion at a base close to the head portion" would not be met by Boik. The reason is that in the embodiment of Fig. 14, the portion of retaining lugs 56 that would engage with container body 21, taken as Applicant's claimed engaging step portion, is closer to the foot portion of retaining lugs 56 than to the end panel 55, taken as Applicant's claimed head portion. The only portion of retaining lugs 56 that may be comparable to a base close to its head portion would be the thin strap-like portions 58, which cannot engage with container body 21 by design. Accordingly, Boik's lacks an engaging step portion at a base close to its head portion.

Referring to Applicant's claim 4, the claim has the additional claimed recitation that "each of [the] supporting means being integrated with the back surface of the head portion." Referring to Applicant's Fig. 3, the claim is supported by the specification, where the supporting portions 6 may have an end face integrated with the back surface 2b of the head portion 2. (specification, page 10, lines 8-10) Taken with additional claim recitations, the column is connected to each of the plate members through each of the supporting means, which means are integrated with the back surface of the head portion.

From the foregoing detailed discussion, Boik's back-up lugs 75, taken as Applicant's supporting means, do not connect the annular wall 64, taken as the claimed column, with retaining lugs 56, taken as the claimed plate members. Accordingly, Boik cannot meet the additional claimed recitation of the supporting means being integrated with the back surface of the head portion from the column to the plate members, because Boik's back-up lugs 75 simply do not extend from annular wall 64 to retaining lugs 56.

Claims 2 and 3, which respectively depend from claim 1, are allowable for at least the foregoing reasons for which claim 1 is allowable, and the foregoing arguments are incorporated herein.

Claims 8 and 9, now cancelled, were rejected under 35 U.S.C. §

102(b) as being anticipated by Jaeger. Because formerly dependent claim 10 has been amended to independent form to include the claim recitations of cancelled claims 8 and 9, the patentability of claim 10 is discussed in reference to Jaeger.

Referring to Jaeger's Fig. 1, Jaeger discloses a seal plug 10 for closing an aperture in a panel. Referring to Jaeger's Figs. 1 and 3, seal plug 10 includes (i) cover cap 12, (ii) seal plug retaining tabs 32, 34, 36, 38 extending from the bottom face 16 of seal plug 10 (shown in the view of Fig. 4 to encompass open area 50), (iii) and guide elements 60, 62, 64, 66 extending from the bottom face 16 of seal plug 10.

By virtue of Examiner's substantive arguments regarding now canceled claims 8 and 9, (i) cover cap 12 is taken to read on Applicant's claimed "head portion" of a hole plug, (ii) guide elements 60, 62, 64, 66 are taken to read on Applicant's claimed "guide means," (iii) chamfer 52, comprising connection area 46 of a retaining tabs 32-38 in an acute angle, is taken to read on Applicant's claimed "plate members," and (iv) an unlabeled region along the axis of seal plug 10 where the guide elements 60-66 come together (Fig. 1) is taken to read on Applicant's claimed "column."

With reference to claim 10, presently incorporating the above-noted claim recitations, contrary to Examiner's assertion, Jaeger possesses no element that could conceivably be referred to as a column. In particular, Jaeger fails to disclose a "column" or other rounded portion "projecting from the back surface of the head portion inside the plate members."

The claim recitation relating to the "column" is supported by Applicant's specification. Referring to Applicant's Fig. 3, a column 3 is formed in a hollow cylinder shape to reduce the weight and raw material of the hole plug. (specification, page 8, lines 11-12) Though Applicant does not limit such support member within any strict definitional parameters, the structure is claimed as a "column," which is inherently a rounded structure by any definitional parameters. Referring to Jaeger's Fig. 1, which shows the view from underneath hole plug 10, the narrow region between guide elements 60-66 would have to satisfy the claimed column for

Examiner's rejection to hold. However, this region is not rounded and plainly does not resemble any type of column. In fact, this region is also not integrally connected to the guide means, as claimed, but a portion of the respective guide means 60-66, since the reference does not even label the region.

In addition, assuming *arguendo* that the foregoing claim recitations are met by Jaeger, the reference lacks any elements equivalent to or event comparable to Applicant's claimed "supporting means," and more particularly "a plurality of supporting means disposed between the column and each of the plate members for connecting the column and the plate member to prevent the plate member from bending inwardly." Jaeger possesses no elements providing support between the aforementioned region between guide means 60-62, taken as Applicant's claimed column, and retaining tabs 32-38 (or its component chamfers 52), taken as Applicant's claimed plate members.

Jaeger does not disclose or suggest the claimed feature that "each of [the] plate members having an engaging step portion at a base close to the head portion for engaging the hole." In Jaeger, the only component that may conceivably engage with the hole in this fashion, to read on Applicant's claimed engaging step portion, would be stop area 48. However, it is the resilient strut members 40, 42 that are positioned at the base of Jaeger's seal plug 10, not stop area 48, which must be taken to read on Applicant's claimed engaging step portion. While strut members 40, 42 are at the base of the seal plug 10, these members have no contact with the hole or its rim portion. On the other hand, while stop area 48 may contact the hole or its rim portion, it is not at the base close to the head portion of Jaeger's seal plug 10.

Claims 1, 2 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kraus. The rejection is respectfully traversed.

Referring to Kraus' Fig. 1, Kraus discloses a closure cover 1 intended for closing an opening, for example in a panel or a motor vehicle.

The Examiner relies upon Kraus' Fig. 6 embodiment to

anticipate claims 1, 2 and 12. Referring to Kraus' Fig. 6, this embodiment describes a structural version of closure cover 1.

Closure cover 1 includes closure plate 4 with multiple integral holding elements 5. Each holding element 5 includes resilient springy arms 7, and an integral holding jaw 6 for engaging the edge of an opening. Closure cover 1 also includes collar 8. Arms 7 may also have protuberances 9 to face collar 8. Though not shown, collar 8 may also have its own protuberance that lies across the inside of arms 7. (column 5, lines 1-12)

Referring to Applicant's claim 1, by virtue of Examiner's substantive arguments and the 35 U.S.C. § 102 statutory requirement that Kraus disclose every claim limitation, (i) closure plate 4 is taken to read on Applicant's claimed "head portion" of a hole plug; (ii) collar 8 is taken to read on Applicant's claimed "column," (iii) holding elements 5 are taken to read on Applicant's claimed "plate members," (iv) holding jaws 6 are taken to read on Applicant's claimed "engaging step portions," and (v) protuberances of collar 8 (not shown, described in column 5, lines 8-12) that may lie across the inside of arms 7, are taken to read on Applicant's claimed "supporting means."

As noted, Applicant's claim 1 recites that "the column *is connected to* each of the plate members through each of the supporting means and the supporting means supports and suppresses the plate member from bending inwardly." (emphasis added)

Kraus' protuberances 9 of arms 7, or protuberances of collar 8 (not shown), which are to be taken for Applicant's claimed supporting means, are not disclosed or suggested to be connected to collar 8, taken for Applicant's claimed column. Nor does Kraus provide any reason to infer or imply any such connection.

The Examiner states that the claim does not require "direct" connection. The only logical possibility for an *indirect* connection between collar 8, taken as the claimed column, and holding elements 5, taken as the claimed plate members, would be if such indirect connection between the foregoing elements included a portion of closure plate 4. However, as noted, closure plate 4 must refer to the claimed feature of a head portion in the present construction,

otherwise Kraus would clearly fail to disclose each and every element of Applicant's claim 1. But if closure plate 4 were to refer to the claimed head portion, it could not simultaneously refer to the claimed supporting means.

In fact, Kraus arguably teaches away from such a connection. Referring to Fig. 6, protuberances 9, and presumably protuberances of collar 8 (not shown) limit the radial inward movement of springy arms 7. (c.5, ll.7-8) This limitation on movement is useful when the closure cover 1 is inserted into an opening. Here, the inclined lower surfaces of jaws 6 engage the edge of the opening, and in a cam-like action, deflect the arms 7 radially inward. After passing through the opening, the arms 7 deflect back to their original position. (column 3, lines 24-30) However, if the foregoing protuberances actually connected holding element 5 (or its springy arms 7), taken as Applicant's claimed plate members, with collar 8, taken as Applicant's claimed column, the foregoing deflection of arms 7 radially inward upon passing through the opening, and subsequent deflection back to their original positions, would be unworkable, unfeasible or impossible.

Applicant's claim 1 also recites an engaging step portion for engaging the hole, specifically that "each of [the] plate members having an engaging step portion at a base close to the head portion for engaging the hole."

Referring to Kraus' Fig. 6, the only portion of Kraus' closure cover 1 that could engage with an opening would be an edge of holding jaw 6. Referring to Fig. 1, Kraus explicitly teaches that the holding jaw (6, 6', 6") (taken as Applicant's claimed engaging step portion) on each adjacent corresponding holding element 5 (taken as Applicant's claimed supporting means) are to be displaced vertically from one another. (column 3, lines 34-43) Consequently, it would not be possible that *each* of holding elements 5 would have a holding jaw 6, 6', 6" *at a base close to the closure plate* (taken as Applicant's claimed head portion). In other words, Kraus does not and could not disclose "*each of* [the] plate members having an engaging step portion *at a base close to the head portion* for engaging the hole." (emphasis added)

Claims 2 and 12, which respectively depend from claim 1, are allowable for at least the foregoing reasons for which claim 1 is allowable.

Claims 6 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Boik as applied to claim 1, and further in view of Mejlso.

As a first matter, since claims 6 and 13 respectively depend from claim 1, these claims are allowable for at least the foregoing reasons for which claim 1 is allowable, and the foregoing arguments are incorporated herein.

For claim 6, Mejlso is used to provide the missing claim recitation of the support means being "formed in a wavy plate shape in a radial direction and extending from the back surface of the head portion." For claim 13, which depends from claim 6, Mejlso is used to provide the missing claim recitation of the wavy plate having "a height less than the heights of the column and the plate member."

Mejlso discloses a fastener 10 made of a resilient material and including a shank 13 and an enlarged head 11. Referring to Mejlso's Fig. 4, a cross-section of line IV-IV of Fig. 2, the shank 13 may have a W-type shape, namely comprised of two U-shaped limbs 19, 20 joined by a web 21, and two reversely bent extensions 17 and 18.

Examiner estimates that it would have been obvious to combine references to suppress movement of the plate member, and to provide support to the plate member for an overall strengthened and improved structure. However, other than hindsight garnered from Applicant's own invention, neither separately or in combination includes a motivation to combine the references. In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."). In less technologically complex cases, the very ease of with which an invention may be understood may render one susceptible to the

insidious effect of using the inventor's own teachings against its teacher. Id.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Boik as applied to claim 1, and further in view of Jaeger. Since claims 7 depends from claim 1, the claim is allowable for at least the foregoing reasons for which claim 1 is allowable, and the foregoing arguments are incorporated herein.

Claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Boik in view of Mejlso and Jaeger. As noted, claim 10 has been amended from dependent to independent form to include the claim recitations of cancelled claims 8 and 9.

For the above noted reasons, claim 10 is allowable over Jaeger.

In addition, claim 10 is allowable over Boik because Boik fails to provide "a plurality of supporting means disposed between the column and each of the plate members for connecting the column and the plate member to prevent the plate member from bending inwardly." As noted, Boik's back-up lugs 75 fail to connect the annular wall 64 with the retaining lugs 56, and arguably teach away from it.

In addition, claim 10 is also clearly allowable over Boik because Boik lacks the claim recitation of "a plurality of guide means disposed between two of the plate members and extending from the back surface of the head portion, each of said guide means having a length longer than that of each of the plate members." No permissible motivation has been provided to combine the teachings. Claim 11 is allowable for the foregoing reasons, as claim 11 depends from claim 10.

CONCLUSION

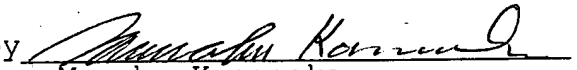
As explained above, the cited references do not disclose, suggest, or render obvious claims 1-4, 6, 7, and 10-13 of the present invention.

It is respectfully requested that the decision of the Examiner

to reject claims 1-4, 6, 7, and 10-13 be reversed, and that claims 1-4, 6, 7, and 10-13 be presently allowed.

Respectfully submitted,

HAUPTMAN KANESAKA BERNER
PATENT AGENTS, LLP

by 
Manabu Kanesaka
Reg. No. 31,467
Agent for Applicants

1700 Diagonal Road, Suite 310
Alexandria, VA 22314
(703) 519-9785

CLAIMS APPENDIX

1. A hole plug for blocking a hole, comprising:

a head portion having a back surface,

a foot portion extending from the back surface of the head portion to be inserted into the hole, said foot portion including a plurality of plate members extending from the back surface of the head portion and arranged circularly with a space between two of the plate members, each of said plate members having an engaging step portion at a base close to the head portion for engaging the hole,

a column projecting from the back surface of the head portion inside the plate members, and

a plurality of supporting means, each supporting means being disposed between the column and each of the plate members so that the column is connected to each of the plate members through each of the supporting means and the supporting means supports and suppresses the plate member from bending inwardly.

2. A hole plug according to claim 1, wherein said plate members are arranged circularly so that the foot portion has a cylindrical shape.

3. A hole plug according to claim 1, wherein each of said supporting means is formed at a position closer to the base than a top portion thereof.

4. A hole plug for blocking a hole, comprising:

a head portion having a back surface,

a foot portion extending from the back surface of the head portion to be inserted into the hole, said foot portion including a plurality of plate members extending from the back surface of the head portion and arranged circularly with a space between two of the plate members, each of said plate members having an engaging step portion at a base close to the head portion for engaging the hole,

a column projecting from the back surface of the head portion inside the plate members, and

a plurality of supporting means, each supporting means being disposed between the column and each of the plate members so that the column is connected to each of the plate members through each of the supporting means and the supporting means supports and suppresses the plate member from bending inwardly, each of said supporting means being integrated with the back surface of the head portion.

6. A hole plug according to claim 1, wherein each of said supporting means is formed in a wavy plate shape in a radial direction and extending from the back surface of the head portion.

7. A hole plug according to claim 1, further comprising a plurality of guide means disposed between two of the plate members and extending from the back surface of the head portion, each of said guide means having a length longer than that of each of the plate members.

10. A hole plug for blocking a hole, comprising

a head portion having a back surface,

a foot portion extending from the back surface of the head portion to be inserted into the hole, said foot portion including a plurality of plate members extending from the back surface of the head portion and arranged circularly with a space between two of the plate members, each of said plate members having an engaging step portion at a base close to the head portion for engaging the hole,

a plurality of guide means disposed between two of the plate members and extending from the back surface of the head portion, each of said guide means having a length longer than that of each of the plate members,

a column projecting from the back surface of the head portion inside the plate members, said column being integrally connected to the guide means to hold and support the guide means, and

a plurality of supporting means disposed between the column and each of the plate members for connecting the column and the plate member to prevent the plate member from bending inwardly.

11. A hole plug according to claim 10, wherein said supporting means is formed in a wavy plate shape in a radial direction and extending from the back surface of the head portion.

12. A hole plug according to claim 1, wherein said head portion has a plate shape and an outer periphery inclined toward the foot portion.

13. A hole plug according to claim 6, wherein said wavy plate has a height less than heights of the column and the plate member.

EVIDENCE APPENDIX

Additional evidence has not been applied.

RELATED PROCEEDINGS APPENDIX

There were no applicable related proceedings.